

Claims

- [c1] 1.A metering and dispensing closure for dispensing powder material from a container comprising:
a container cap member attachable to the container, the container cap member having a first side adapted to be mounted facing an inside of the container and a second side adapted to be mounted facing an outside of the container, a measuring chamber positioned in the container cap member;
a first rotatable disk member having at least one passage therein, the first rotatable disk member mounted on the first side of the container cap member;
a second rotatable disk member having a passage therein, the second rotatable disk member mounted on the second side of the container cap member; and
wherein when the disk members are rotated, powder material passes sequentially through the one passage in the first disk member, into the measuring chamber of the cap member, and then through the passage of the second disk.
- [c2] 2.The metering and dispensing closure as defined in Claim 1 wherein the first and second rotatable disk

members are interconnected to each other.

- [c3] 3.The metering and dispensing closure as defined in Claim 2 wherein the second rotatable disk member includes a drive shaft engagement portion.
- [c4] 4.The metering and dispensing closure as defined in Claim 1 wherein the first rotatable disk has a cutaway portion.
- [c5] 5.The metering and dispensing closure as defined in Claim 1 wherein the cap member includes threads for attachment to complementary threads of the container.
- [c6] 6.The metering and dispensing closure as defined in Claim 1 further including a housing with two of the metering and dispensing closures connected to the container and positioned in the housing.
- [c7] 7.The metering and dispensing closure as defined in Claim 1 wherein the second rotatable disk member includes a gear for engagement by a complementary gear of a drive gear.
- [c8] 8.A powder dispensing apparatus comprising:
a container cap member attachable to the container, the container cap member having a first side adapted to be mounted facing an inside of the container and a second

side adapted to be mounted facing an outside of the container, a measuring chamber positioned in the container cap member;

a first rotatable disk member having at least one passage therein, the first rotatable disk member mounted on the first side of the container cap member;

a second rotatable disk member having a passage therein, the second rotatable disk member mounted on the second side of the container cap member, the first and second rotatable disk members connected to each other with the second rotatable disk member including a drive shaft engagement portion;

a drive shaft connected to the drive shaft engagement portion;

a drive member connected to the drive shaft; and

wherein when the disk members are rotated, powder material passes sequentially through the one passage in the first disk member, into the measuring chamber of the cap member, and then through the passage of the second disk.

- [c9] 9. The powder dispensing apparatus as defined in Claim 8 further including a receptacle for housing the container cap member and the first and second rotatable disk members.

- [c10] 10.The powder dispensing apparatus as defined in Claim 9 wherein the receptacle includes a liquid inlet and a liquid outlet.
- [c11] 11.The powder dispensing apparatus as defined in Claim 8 wherein a drive member is disposed in the receptacle with the drive member operatively connected to the second rotatable disk member.
- [c12] 12.The powder dispensing apparatus as defined in Claim 8 further including a receptacle enclosing two of the container cap members and the first and second rotatable disk members and drive motors operatively connected to the first and second rotatable disk members.